



Peaking Too Soon: A case study of updating river hydrology for a Latrobe River tributary

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Biography:

Steve is a water resources engineer with more than 8 years of industry experience in Australia. His passions are found in the integration of best practice with the latest techniques in stormwater and waterway management. He's a keen fly fisher and loves a challenge.

Jacqueline has worked in the stormwater industry for the past three years as a Water Resources Engineer at Beveridge Williams. There she has incorporated water sensitive urban design and hydrology to deliver wetland and stormwater assets. She has a keen interest in flood modelling and developing solutions that balance efficiency and sustainability.

Australian Rainfall and Runoff has been an integral tool for the evaluation of stormwater flows across Australia for more than 30 years. Through its implementation, water management professionals have had a rigorous system with which to undertake stormwater analyses, though the system was largely limited – and therefore flawed - by the availability of climate information at the time. The advent of AR&R2016 brings a new and robust set of processes for the evaluation of hydrology and with that comes the need to update and/or refine our current modelling of river systems.

In review of the stream gauge data for a Latrobe River tributary against the historical flood modelling and catchment analyses undertaken for the tributary's catchment, it was observed that there was divergence between the observations and the published flows. The identification of this divergence prompted a reanalysis of the tributary's system to identify how significant the divergence truly was. This paper undertakes a case study evaluating the process of updating the hydrological and hydraulic modelling associated with the tributary from AR&R87 to AR&R2016. The study focuses on the calibration process, opportunities for additional refinement of catchment characteristics and a holistic evaluation of the recommended methodologies for AR&R2016. Stream gauge data, daily rainfall and rainfall radar data have been used to update the hydrology and flow regime modelling of the stream, providing an updated estimate of the opportunities and risks associated with high intensity rainfall events within the stream's catchment. It is hoped that the methodologies outlined within it will assist water managers in developing a greater understanding of the modelling of flow regimes and flood risk possible under AR&R2016.